

**Amendments To The Drawings:**

The Office Action objected to Figures 5A and 5B because the embodiment described on lines 1-6 of page 12 of the specification should be shown and each embodiment should be represented in a different figure. Applicants have amended Figure 5B by providing Figure 5B as a variation of Figure 5A and have provided Figures 5A and 5B on separate sheets of paper to overcome the objection. Figure 5A is labeled as an Amended Sheet and Figure 5B is labeled as a New Sheet.

### **REMARKS**

This Amendment and Response is filed responsive to the Office Action dated 26 February 2010. In the Office Action, Claims 1-2 and 4-16 were rejected. Additionally, the Office Action instructed that newly submitted claims 17-25 were directed to an invention that is independent or distinct from the invention originally claimed and that Applicants have already received an action on the merits for the originally presented invention. Consequently, claims 17-25 were withdrawn from consideration and the same is reflected in the present listing of claims. Additionally, the Examiner kindly noted that all documents listed on the Information Disclosure Statement filed on 27 February 2006 have been considered. Also, the Examiner objected to the Drawings for Figures 5A-C, objected to the Abstract, objected to the title, and objected to Claim 8 for informalities.

Applicants appreciate the Examiner's efforts and thoroughness in reviewing this application and have sought to remedy each of the objections. By way of this Amendment and Response, Applicants amend Claims 1, 6, 7, 8, 9, and 14, and withdraw claims 17-25. In light of this Amendment and Response, Applicants submit that the present application is in condition for allowance and respectfully request reconsideration of the application in combination with this Amendment and Response.

### **AMENDMENTS TO THE DRAWINGS**

The Office Action objected to Figures 5A and 5B because the embodiment described on lines 1-6 of page 12 of the specification should be shown and each embodiment should be represented in a different figure. Applicants have amended Figure 5B by providing Figure 5B as a variation of Figure 5A and have provided Figures 5A and 5B on separate sheets of paper to overcome the objection. Figure 5A is labeled as an Amended Sheet and Figure 5B is labeled as a New Sheet. Applicants respectfully submit that the amendments to Figures 5A and 5B are supported by the application as originally filed, particularly by paragraph [0027] as originally filed. Applicant notes that paragraph [0027] has been amended in this Amendment and Response to correspond to the amendments of Figures 5A and 5B. While paragraph [0027] was amended to correspond to the drawings, Applicants respectfully submit that the changes to both the specification and the drawings are supported by the application as filed. As seen in the attached Replacement Sheet, Figure 5A now depicts merely one embodiment, overcoming the

objection of the Office Action. Applicants respectfully request withdrawal of the objection.

#### **AMENDMENTS TO THE ABSTRACT AND TITLE**

The Office Action further objected to the Abstract for describing the application and invention as related to methods. Moreover, the Title of the application was objected to for 'erroneously describ[ing] the claimed invention as including methods.' In light of the amendments presented herein, Applicants respectfully submit that these objections have been overcome. Applicants respectfully request withdrawal of the objection to the Specification, including the objections to the Abstract and to the Title.

#### **AMENDMENTS TO CORRECT INFORMALITIES**

The Office Action objected to Claims 9, 11, and 14 due to various informalities issues such as word selection, spelling, or insufficient support issues. Claims 9, 11, and 14 have been amended herein to correct the informalities identified by the Examiner. Applicants appreciate the Examiner's thoroughness in review of this application.

#### **REMARKS REGARDING CLAIM REJECTIONS**

The Office Action rejected Claims 1-2 and 4-16 under 35 U.S.C. § 112 second paragraph as being indefinite. Particularly, Claims 1, 6, 7, and 8 each were rejected for functionally reciting a first component and a second component, yet the body of each claim positively recites the first and second components, creating an ambiguity. Applicants have amended each of claims 1, 6, 7, and 8 to remove the functional language from the claim preambles such that each of the first component and second component are positively claimed. Applicants have also corrected a drafting error in claim 8 part "C" as pointed out by the Examiner. Applicants thank the Examiner for careful review of the claims and catching this error and have amended Claim 8 to correct this error and provide clarity. Claim 9 was rejected due to a clarity issue and claim 14 was rejected due to an antecedent basis problem. Applicants have amended each of claim 9 and claim 14 to overcome these rejections. Accordingly, Applicants request withdrawal of each of the aforementioned rejections.

The Office Action further rejected Claims 1-2, 4-5, 6-7, 9-10, and 16 under §102(b) in view of Hughes (US 5,950,744). Applicants appreciate the thoroughness with which the

Examiner addressed each claim specifically. Applicants respectfully submit that the amended independent claims, Claims 1, 6, 7, and 9 are distinguishable and patentable over the '744 Hughes reference as written. The Office Action also rejects claims 11-12 and 15 under 35 U.S.C. § 103(a) as being obvious over Hughes '744, and rejects claims 13 – 14 as being obvious over Hughes '744 in view of Hughes (US 2005/0023831 A1). The remarks below illustrate the differences between Hughes '744, Hughes '831, and the present claims.

To begin, Applicants respectfully assert that the amended independent claims require that the threads on first component connection end of the first component are synchronous with respect to the separate threads on the second component connection end of the second component. Hughes '744 fails to teach or suggest a separate set of threads on each of the first and second components, and also fails to teach or suggest use of synchronous timing between such separate threads. In contrast to the claimed subject matter, Hughes '744 describes (quoting generally from the office action) a connection, wherein each joint in the connection comprises an upper section and a lower section having corresponding recesses, such that the recess can fit together in only one way. Respectfully, Applicants contend that the claimed subject matter provides a synchronous threaded connection that is not taught or suggested by Hughes '744 and/or Hughes '831. Applicants respectfully contend that the connection taught by Hughes '744 fails to teach or suggest separate, sequentially timed synchronous threads or their use to create a connection. The threaded components of Hughes '744 comprise a single, substantially continuous thread that is necessarily common to both first and second components and that has been bisected across multiple pitches courses, in various embodiments thereof. Hughes '744 fails to disclose, teach or suggest using separate threads on each end of the connection. Further, the Hughes '831 reference does not teach or disclose use of separate, synchronous threads on each of adjacent mating components ends. Hughes '831 requires different threads on each of the opposing ends, one of which requires a tapered or wedge thread connection requiring minimal rotation for engagement while the other thread provides rotation for linear displacement.

Applicants respectfully assert that it should be readily apparent to one having a basic set of mechanical skills that the thread connections disclosed by Hughes '744 require extreme precision to properly align the bisected pitches and fabricate an operable connection such that the

upper and lower faces of the adjacent first and second components engage each other as intended when the collar is threadably engaged on the components. The adjacent components of Hughes '744 suffer an inherent limitation in that both components must be virtually perfectly aligned with each other in order for the bisected plurality of threads to align with each other to facilitate threading the collar therewith. Any misalignment will prohibit the collar from rotating and threading from the first to the second component. Correcting the misalignment means that the mating shoulders 24 and 33, and 28 and 30 are necessarily disengaged with each other by a distance of the amount of correction needed to align the threads, which could be up to one thread pitch in displacement. Such aligning means loss of shoulder engagement and the benefits thereof, plus increased time and finesse required by large rig components to facilitate such fine adjustments. Even if the thread is cut on adjacent pairs of component sections to facilitate matched pitches, each pair then becomes a unique custom connection whereby only those specific components of the pair may be rejoined later in the field to the same specific mating component with which it was threaded. This makes mass production very difficult. If one joint requires replacement, it then becomes extremely difficult to duplicate that joint in order to provide exact thread mating again.

To the contrary, the subject matter of the present amended claims provides separate, individually threaded ends on each of the first and second components. The claimed components are threadably connected by a collar having an internal thread, whereby the collar thread simultaneously engages with a separate, distinct thread on the each adjacent end of the components, while maintaining the adjacent components in predefined axial alignment with respect to the other of the adjacent threads, such as with an alignment pin. The threads of each first component are synchronously timed in orientation with respect to the adjacent, separate threads on the second component. Each adjacent component end has a distinct thread course, whereby each adjacent thread is timed to be synchronous with the adjacent component thread when the adjacent ends are abutted together or when spaced apart at a desired distance, such as with use of a spacer. Because the same thread timing is provided for each component end of all components in a component string, any one joint or component of the string or component that is compatible therewith may be easily and readily interchanged or swapped out with any other such

synchronously threaded joint in the string. Thereby, joints and components in the string may be universally interchangeable between strings or within the string.

Custom connections such as those of Hughes '744 having exclusive, critical alignment over multiple threads because adjacent components are not required according to the presently claimed subject matter. The claimed subject matter also easily facilitates the requirement of maintaining the pre-defined axial alignment between the first and second components. Mass production of the threaded connections also become potentially more feasible with the claimed subject matter than the connections disclosed in Hughes '744.

In order to further clarify that the claimed subject matter is not disclosed or suggested by any of the cited references, Applicants have further amended independent claims 1, 6, 7, 8, and 9 with the additional limitation that the connection collar comprises an internal continuous straight thread that can be threaded onto each of the first and second component connection ends. Applicants respectfully assert the claimed subject matter is adequately supported by the description and drawings. For example, support for these amendments is clearly illustrated in each of Figures 1 through 5, illustrating a straight (e.g., non-tapered) substantially cylindrically shaped collar for threadably joining the first and second components. The collar provides a straight thread, somewhat analogous to the threads of a machine bolt, regardless of the exact type of thread provided. In addition to the claim amendments, Applicants have amended the written description of the specification to further discuss these claim amendments without adding any new matter, as confirmed by *In Re Wolfensperger* (302 F.2d, 133 USPQ 537 (C.C.P.A. 1962).

In this Non-Final Response, together with the prior Responses, Applicants have addressed each and all of the issues raised in the various Office communications. Applicants respectfully submit that each of the objections and rejections has been rendered moot and/or overcome by the foregoing amendments and remarks.

Additionally, Applicants are submitting a 1449.

Accordingly, Applicants believe that this application is in condition for allowance. Applicants appreciate the Examiner's detailed office actions and respectfully request that the Examiner issue a Notice of Allowance covering the pending claims. If the Examiner has any questions, or if a telephone interview would in any way advance prosecution of the application, the Examiner is encouraged not to hesitate to contact the undersigned attorney of record.

Respectfully submitted,

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